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10/663,432	09/15/2003	Michiyo Fujikawa	4618-002	1556

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EXAMINER

SALVATORE, LYNDIA

ART UNIT PAPER NUMBER

1771

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/663,432

**Applicant(s)**

FUJIKAWA ET AL.

**Examiner**

Lynda M. Salvatore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-4 and 6-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4, 6-12, 14-21 is/are rejected.
- 7) ☐ Claim(s) 13 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's amendment and accompanying remarks filed 9/20/05 have been fully considered and entered. Claims 1 and 5 have been canceled, claims 2-4 have been amended and new claims 6-22 have been added as requested. Applicant's cancellation of claims 1 and 5 renders moot the 112 2<sup>nd</sup> paragraph rejections set forth in sections 3 and 4 of the last Office Action. Applicant's arguments with respect to obviousness rejections set forth in last Office Action have been considered, but are moot in view of the new ground(s) of rejection necessitated by Applicant's amendments.

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 2-4, 7-12, 14, 20 and 21 are rejected under 35 U.S.C. 103(a) as obvious over Suzuki et al., EP 0 841 156 A1.

The published European patent application issued to Suzuki et al., teach a composite sheet comprising a first melt-blown thermoplastic non-woven layer (A) and a second cellulosic/thermoplastic non-woven layer (B) (Page 4,30-35 40-50 and Page 5, 5-10). Suzuki et al., teach joining layers (A) and (B) by bonding with heat and pressure such that the layers are sintered together (Page 3, 21-27 Page 9, 20-30 and Figure 1). With regard to the entangling limitation, Suzuki et al., teach forming the non-woven layers by carding, spunbonding and entangling (Page 7, 22-35, Page 8, 20-25, Page 15, 40-43, Page 19, 15-20). Thus, with respect to the "gap" limitation recited in claims 4 and 14, it is reasonable to presume that a carded,

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spunbonded or entangled non-woven would have inherently have gaps present between the resin fibers. Suzuki et al., teach that liquid easily diffuses from the first porous layer and is absorbed in the second layer (Page 10, 49-54).

With respect to recited density limitations present in of each layer after pressure is applied thereto, the Examiner maintains that Applicant is not positively claiming the density of each layer. Rather, Applicant is claiming the density in terms of when a predetermined amount of pressure is applied. In other words, Applicant is attempting to claim the future density of each layer under pressure rather than positively setting forth the actual density of each layer. Absent such limitations, the Examiner maintains that it is not possible to determine the scope of the claim in the present tense.

With specific regard to claim 2, Suzuki et al., does not exemplify providing a second layer with 20-80% cellulose fibers but does teach that suitable second layer materials include cellulose, rayon or cotton (page 4, 45-50). In one example, Suzuki et al., teach a second layer comprising 30% thermoplastic fibers and 70% rayon (Page 23, 25-30). Though, Suzuki et al., exemplifies rayon rather than cellulose, it is the position of the Examiner that since cellulose is taught as an equally suitable second layer material, one of ordinary skill in the art would easily recognize that the second non-woven layer could be also made with 70% cellulose rather than rayon.

With specific regard to claim 3, Suzuki et al., teach employing a hot plate to press the composite such that the surface is smooth (page 12, 5-10). Also, Suzuki et al., teach a smooth surface with no fuzz (page 9, 31-40). With specific regard to employing a heating roll, Suzuki et

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al., teach a employing a pair of rolls wherein the upper roll has a satin finish. As such, it is the position of the Examiner that such an apparatus would also produce the claimed smooth finish.

With regard to claims 7 and 12, Suzuki et al., teach employing the composite sheet as an absorbent body and can be further combined with a back sheet on the back side of the second porous layer (Page 10, 58-Page 11, 2).

With regard to claim 8, Suzuki et al., teach each layer (A) and (B) can have a common thermoplastic material (abstract).

With regard to claims 9 and 14, Suzuki et al., teach forming the composite by positioning a silicone separating material between each layer (A) and (B). As such, it is reasonable to presume that first layer (A) would be free of cellulose fibers as claimed.

With regard to claims 10 and 14, it is the position of the Examiner that the smooth surface produced by either the hot plate press or pair of rollers having a satin finish would result in the claimed planar and parallel surfaces.

With regard to claim 11, it is not clear to the Examiner if Applicant is positively claiming an embossed surface or if the surface is generally planar and parallel unless the surface happens to be embossed. Absent such positive limitations, the Examiner does not consider the recitation of “except in embossed regions” positive in any patentable sense. However, it does appear that Suzuki et al., illustrate and teach sintering such that raised areas or regions are formed (page 10, 9-25 and figure 6c).

With respect to claim 20, Suzuki et al., does not teach treating the surface of first layer (A) with a surface active agent to render the hydrophobic thermoplastic fibers hydrophilic. However, the first layer (A) of Suzuki et al., may comprise hydrophilic material (abstract).

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Suzuki et al., teach providing a composite (A/B) layer having hydrophilic materials (page 9, 20-30 and 5-10). In other words, it appears that both layers (A) and (B) may comprise a hydrophilic material if one of the layers is composite of (A) and (B) materials. To that end, Suzuki et al., does teach treating synthetic hydrophobic materials such that they exhibit hydrophilic properties (page 9, 29-30). The Examiner considers said treatment sufficient to meet the surface active agent limitations set forth in claim 20.

4. Claims 2,4 and 7 are rejected under 35 U.S.C. 103(a) as being obvious over Butterworth et al., US 4, 081,582.

The patent issued to Butterworth et al., teach a composite comprising a first entangled fibrous non-woven layer comprising cellulose and thermoplastic fibers (Column 4, 54-56, Column 5, 60-Column 6, 10). Said composite further comprises a second non-woven layer comprising thermoplastic synthetic wood pulp fibers (Column 1, 34-44, Column 2, 29-35). Butterworth et al., teaches joining the layers together with heat in the absence of pressure (Abstract, Column 3, 1-10, and Column 10, 15-25). With regard to the recited liquid transfer limitation, Butterworth et al., teach employing the composite in variety of personal care disposable articles (Column 5, 1-6). As such, it is the position of the Examiner that when the composite is subjected to liquid insult, said liquid would transfer through the layers.

With respect to recited density limitations present in of each layer after pressure is applied thereto, it is the position of the Examiner that Applicant is not positively claiming the density of each layer. Rather, Applicant is claiming the density in terms of when a predetermined amount of pressure is applied. In other words, Applicant is attempting to claim the future density of each layer under pressure rather than positively setting forth the actual density of each layer.

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Absent such limitations, the Examiner maintains that it is not possible to determine the scope of the claim in the present tense.

With regard to claim 2, Butterworth et al., does not specifically teach the claimed amount of cellulose fibers, however, it would be obvious to one having ordinary skill in the art to provide said first layer with a suitable amount of cellulose fibers and thermoplastic fibers to achieve a desirable balance of absorbent and bonding properties. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233

With regard to claim 7, Butterworth et al., teach employing the composite in a diaper comprising a back sheet (Column 12, 33-40, 49-51 and Figure 13).

5. Claims 6 and 15-19 are rejected under 35 U.S.C. 103(a) as obvious over Suzuki et al., EP 0 841 156 A1 as applied to claims 4 and 14 above and further in view of Baer et al., WO 99/63922.

Suzuki et al., does not teach the difference in density of each layer (A) and (B), however it is known in the art to create a density gradient in absorbent composite structures. For example, the published PCT issued to Baer et al., teach an absorbent structure comprising a first liquid acquisition layer, distribution layer and a second fibrous liquid storage layer (abstract). Baer et al., specifically teach providing a lower density acquisition layer and a higher density liquid storage layer to create a density gradient having the ability to rapidly acquire and distribute liquids (page 5, 15-20). Baer et al., does not specifically teach the density of the distribution layer relative to the acquisition or storage layer, however, is the position of the Examiner that the overall purpose of the Baer et al., absorbent structure is to create a density gradient for improved

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liquid transfer. As such, with specific regard to claim 6, it is the position of the Examiner that based on the teachings of Baer et al., it would be obvious to a worker skilled in the art to vary the density of layers (A) and (B) in the absorbent composite structure taught by Suzuki et al., to provide a desirable density gradient. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art *In re Aller*, 105 USPQ 233

Therefore, motivated by the desire to provide an absorbent composite structure with the ability to rapidly acquire and distribute liquids it would have been obvious to one having ordinary skill in the art at the time the invention was made to form layer (A) and (B) of the composite taught by Suzuki et al., with varying densities as taught by Baer et al.

With respect to claims 16-17, Suzuki et al., teach fiber fineness in layer (A) of about 2 deniers, which is equivalent to 2.22 dtex, and fiber fineness in layer (B) of about 4 deniers, which is equivalent to 4.44 dtex (page 8, 20-30).

With respect to claim 18, it is not clear to the Examiner if Applicant is positively claiming an embossed surface or if the surface is generally planar and parallel unless the surface happens to be embossed. Absent such positive limitations, the Examiner does not consider the recitation of "except in embossed regions" positive in any patentable sense. However, it does appear that Suzuki et al., illustrate and teach sintering such that raised areas or regions are formed (page 10, 9-25 and figure 6c).

With regard to claim 19, Suzuki et al., teach each layer (A) and (B) can have a common thermoplastic material (abstract).

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6. Claims 6 is rejected under 35 U.S.C. 103(a) as obvious over Butterworth et al., US 4, 081,582 as applied to claim 4 above and further in view of Baer et al., WO 99/63922.

Butterworth et al., does not teach the difference in density of each layer (A) and (B), however it is known in the art to create a density gradient in absorbent composite structures. For example, the published PCT issued to Baer et al., teach an absorbent structure comprising a first liquid acquisition layer and distribution layer, a second fibrous liquid storage layer (abstract). Baer et al., specifically teach providing a lower density acquisition layer and a higher density liquid storage layer to create a density gradient having the ability to rapidly acquire and distribute liquids (page 5, 15-20). Baer et al., does not specifically teach the density of the distribution layer relative to the acquisition or storage layer, however, is the position of the Examiner that the overall purpose of the Baer et al., absorbent structure is to create a density gradient for improved liquid transfer. As such, with specific regard to the claimed differences in density between layers, it is the position of the Examiner that based on the teachings of Baer et al., it would be obvious to a worker skilled in the art to vary the density of layers (A) and (B) in the absorbent composite structure taught by Butterworth et al., to provide a desirable density gradient. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art *In re Aller*, 105 USPQ 233

Therefore, motivated by the desire to provide an absorbent composite structure with the ability to rapidly acquire and distribute liquids it would have been obvious to one having ordinary skill in the art at the time the invention was made to form layer (A) and (B) of the composite taught by Butterworth et al., with varying densities as taught by Baer et al.

*Allowable Subject Matter*

7. Claims 13 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Specifically, the prior art of record fails to teach the limitation of providing a first layer with a portion that extends outwardly beyond a boundary of said second layer is bonded to the back sheet. The cited prior art of record only teaches layers which coextensive. An updated prior art search did not produce any new art for which to base a rejection and presently there is no motivation to combine references to form an obviousness type rejection.

*Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda M. Salvatore whose telephone number is 571-272-1482.


The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 9, 2005

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